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CORRES. CONTROL
INCOMING LTR NO.
00214_RF05
DUE DATE
ACTION

RECEIVED
2005 APR 18 P 12:10
CORRESPONDENCE CONTROL

Department of Energy
ROCKY FLATS PROJECT OFFICE
10808 HIGHWAY 93, UNIT A
GOLDEN, COLORADO 80403-8200

APR 13 2005

05-DOE-00220

DIST.	LTR	ENC
BERARDINI, J.H.	X	X
BOGNAR, E.S.	X	X
BROOKS, L.	X	X
CARPENTER, M.	X	X
CRUCCI, J.A.		
CROCKETT, G. A.	X	X
DECK, C. A.		
DEGENHART, K. R.	X	X
DEL VECCHIO, D.		
~~DIETER, T. L.~~		
FERRERA, D. W.	X	X
GIACOMINI, J. J.		
GILPIN, H.		
LINDSAY, D. C.	X	X
LONG, J. W.		
~~MARTINEZ, L. A.~~	~~X~~	
~~NAGEL, R. E.~~	~~X~~	
NESTA, S.		
~~NORTH, K.~~		
SHELTON, D. C.	X	X
SPEARS, M. S.	X	X
TUOR, N. R.	X	X
WIEMELT, K.	X	X
WILLIAMS, J. L.		
ZAHM, C.	X	X
Ward, D	X	X

COR. CONTROL	X	X
ADMIN. RECORD		
PATS		

Reviewed for Addressee
Corres. Control RFP
4/18/05 Date
By

Ref. Ltr. #

DOE ORDER #
5400.1

Mr. Steve Gunderson
Rocky Flats Cleanup Agreement Project Coordinator
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Mr. Mark Aguilar
Rocky Flats Cleanup Agreement Team Leader
U.S. Environmental Protection Agency, Region VIII
999 18th Street, Suite 500
Denver, Colorado 80202-2466

Dear Mr. Gunderson and Mr. Aguilar:

Enclosed is the Rocky Flats Cleanup Agreement Implementation Quarterly Status Report for the Second Quarter for fiscal year 2005.

If you have any questions or comments, please contact me at (303) 966-2282 or Richard Schassburger at (303) 966-4888.

Sincerely,

Joseph A. Legare, Director
RFPO Project Management

RECEIVED
APR 19 2005

Enclosure

cc w/Encl.:
D. Shelton, K-H
L. Brooks, K-H

ADMIN RECORD

SW-A-005070

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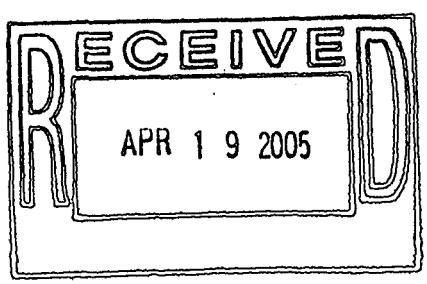
QUARTERLY STATUS REPORT

ROCKY FLATS CLEANUP AGREEMENT IMPLEMENTATION

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

SECOND QUARTER FISCAL YEAR 2005



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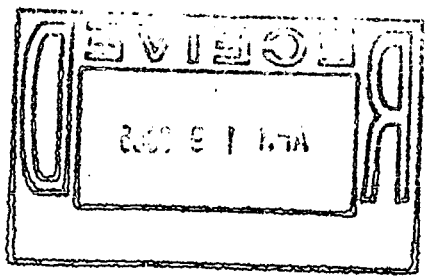

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1.0 INTRODUCTION

Pursuant to paragraphs 122 and 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS). For the purposes of this report, the term, the Site, refers to both DOE and the Kaiser-Hill Company, L.L.C. (Kaiser-Hill).

This report describes activities that occurred from January 2005 through March 2005 (referred to as the second quarter of fiscal year [FY] 05). The sections of this report are organized into the following topics: (1) Introduction; (2) Site-wide Activities Implementing RFCA and Supporting RFETS Closure; (3) RFETS Closure Projects; (4) Water Management; and (5) List of Approved Decision Documents.

2.0 SITE-WIDE ACTIVITIES IMPLEMENTING RFCA AND SUPPORTING RFETS CLOSURE

2.1 Integrated Monitoring Plan Update

During the second quarter of FY05, the Integrated Monitoring Plan (IMP) Working Group continued to refine the configurations of the various monitoring systems that are proposed to remain when accelerated actions are completed later this calendar year. This completes the most comprehensive review of monitoring systems since the IMP was first implemented in 1997. Because of the interrelationships among these monitoring system designs and various decision frameworks being developed, the release of the IMP has been delayed from its originally intended publication date in January. Release of the document is expected in April 2006.

Few additional changes are expected for the IMP in FY05 other than to update progress toward achieving the proposed monitoring system configuration. Any modifications made to the final monitoring configuration during that time will be integrated into the IMP to assure the required monitoring is implemented as intended.

2.2 Draft Remedial Investigation and Feasibility Study

RFCA paragraph 83 states "[f]ollowing implementation of all planned accelerated actions, CDPHE and EPA shall evaluate the Site conditions and render final remedial/corrective action decisions for each operable unit." The RFCA Parties have stated that final remedial/corrective action decisions will be made in a final Corrective Action Decision/Record of Decision (CAD/ROD). To complete this process, the RFCA Parties developed a Final Work Plan for the Development of the Remedial Investigation and Feasibility Study Report (Work Plan) in March

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2002. The work plan contains 15 tasks. Through March 2005, five tasks are complete; two task work products are under regulator review. The remaining tasks are under various stages of development. When approved by the regulators, the Remedial Investigation/Feasibility Study Report (RI/FS Report) will be the basis for development of a Proposed Plan that describes the preferred proposed final remedy for RFETS. The Proposed Plan is the basis for the final CAD/ROD.

The RI/FS Report will present the findings of the field investigations, including the nature and extent of contamination, contaminant fate and transport, the comprehensive risk assessment results, the final remedial action objectives, and supports the development, screening and detailed analysis of remedial alternatives after the completion of the planned accelerated actions. Because remedial activities at RFETS are also being conducted under the Resource Conservation and Recovery Act (RCRA) and the Colorado Hazardous Waste Act (CHWA), the RI/FS Report will also meet the RCRA/CHWA requirements for a RCRA Facility Investigation/Corrective Measures Study report.

3.0 RFETS CLOSURE PROJECTS

RFETS closure activities conducted during the second quarter of FY05 included: (1) Industrial Area Operable Unit, Building (B) 771; (2) Industrial Area Operable Unit, B776/777; (3) Industrial Area Operable Unit, B371/374; (4) Industrial Area Operable Unit, B707; and (5) Remediation, Industrial & Site Services Project (RISS).

3.1 Industrial Area Operable Unit, B771 Closure Project

The B771 Closure Project Decommissioning Operations Plan (DOP) was approved by CDPHE on January 11, 1999. As of March 31, 2005, seven modifications to the DOP have been approved. During the second quarter of FY05, the B771 Closure Project Team initiated preparation of the Closeout Report for the B771 Closure Project. The Closeout Report will be submitted to the agencies in the third quarter of FY05.

3.2 Industrial Area Operable Unit, B776/777 Closure Project

The B776/777 Closure Project DOP was approved by CDPHE on November 5, 1999. As of March 31, 2005, eleven minor modifications and one major modification to the DOP have been approved. The Demolition Plan was a major modification; it was approved on July 1, 2003. During the second quarter of FY05, the B776/777 Closure Project Team conducted the following activities:

1. Completed removal of highly contaminated floors in portions of Rooms 118, 134W, 134E, and 154. Demolished many interior non-load-bearing cinderblock walls to aid with dust control during demolition. (Rubble will remain to be loaded out with building.) Completed core-boring vault walls and some buried equipment pits and

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placed expanding grout to fracture concrete. Completed decontamination, final surveys, and encapsulation in the remaining survey units.

2. The final RCRA unit (room 131) was closed on January 26, 2005 as documented in a Contact Record with CDPHE.

3. Completed construction of the B776 water retention basin and pump system to be used for collection, filtration, and recycle of dust suppression water and precipitation collected during demolition.

4. Stockpiled B-Pond soil adjacent to B776 for loading in the rail cars with B776/777 demolition debris.

5. The final Pre-Demolition Survey Report for B776/777 was approved by CDPHE on February 25, 2005.

6. Commenced demolition of B776/777 on March 2, 2005.

Activities planned for the third quarter of FY05 include the completion of demolition and size reduction and removal of building debris for Buildings 776, 777, and 781.

3.2.1 Industrial Area Operable Unit, B371/374 Closure Project

The B371/374 Closure Project DOP was approved by CDPHE on March 29, 2001. As of March 31, 2005, five field modifications to the DOP have been approved. During the second quarter of FY05, the B371/374 Closure Project Team conducted the following activities:

1. Completed demolition of Phase I (B374) and Phase II (371 Annex) activities including backfill.

2. Completed Phase III decontamination activities and final surveys. The Pre-Demolition Survey Report will be submitted to DOE and CDPHE in April 2005.

3. Continued decontamination activities in the B371 canyons.

4. Removed all Zone 1 and 2 ducting.

5. Completed decontamination activities in the Central Storage Vault.

6. Received approval from DOE and CDPHE to begin backfill activities in the sub-basement of B371. Backfill activities are scheduled to begin in April 2005.

There are a total of 45 dismantlement work sets in the B371/374 Project; all 45 have been completed to date. The B371/374 Closure Project Team has removed 428 of 428 glovebox equivalents and 373 of 375 tanks.

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3.3 Industrial Area Operable Unit, B707 Closure Project

The B707 Closure Project DOP was approved by CDPHE on January 18, 2001. As of March 31, 2005, three minor modifications to the DOP have been approved. During the second quarter of FY05, the B707 Closure Project Team conducted the following activities:

1. Completed demolition and removal of all remaining buildings in the B707 cluster, including contaminated portions of the B707 and B778 floor slabs, and B731 waste pit.
2. Initiated preparation of the Closeout Report for the B707 Closure Project.

Activities planned for the third quarter of FY05 include the completion of the Closeout Report for the B707 Closure Project.

3.4 Remediation, Industrial & Site Services Project

RISS activities supporting RFETS closure during the second quarter of FY05 include decontamination and decommissioning (D&D) as well as environmental restoration (ER).

3.4.1 Decontamination and Decommissioning

During the second quarter of FY05, the RISS Closure Project Team conducted the following activities:

1. Demolished 83 facilities including Buildings 124/129 (Water Treatment Complex), 439, 445, 559 (Sewer Treatment Complex), 561, 879, 974, 977, and 995.
2. Completed demolition of the sanitary portion of B444.
3. Completed B883 exterior transite removal and demolished the structure to slab.
4. Demolished the B331 Fuel Island and all related storage tanks.
5. Demolished T130E and T103G trailers.
6. Demolished the 453, 666, and 967 Pads.
7. Completed demolition/removal of 30 storage tanks.
8. Removed 820 feet of above ground steam lines (19,960 feet of 20,150 feet) with the remainder on buildings or under power lines.
9. Terminated all water plant operations, including B060.

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10. Removed/closed 37,141 feet of water distribution system for a total of 37,141 of 84,412 total feet.

11. Removed/closed 19 additional manholes for a total of 178 of 180 manholes.

12. Removed an additional 12,246 feet of the 13.8 kv electrical distribution system for a total of 27,441 of 56,215 total feet.

13. Removed an additional 516,429 square feet of RFETS asphalt for a total of 2,805,025 of 6,720,797 total square feet.

14. Received DOE approval on 5 of 14 Utility Closure Plans.

15. Completed removal of the natural gas, underground steam, and fuel oil utility systems.

16. Completed 95% of work required for closure of Sector 6A.

17. Resumed Aqueous Waste Treatment System shipments with approximately 220,000 gallons shipped during the second quarter of FY05.

During the third quarter of FY05 RISS will complete the demolition of Buildings 444, 883, and 776/777 and commence the demolition of Buildings 331, 371, 440, 460, and 750 Pad. In addition, the East Access to the site (East Access Road) will be permanently closed, the raw water system operations will be terminated and the Aqueous Waste Treatment Systems shipments will be completed.

3.4.2 Environmental Restoration

ER activities implementing RFCA and supporting closure during the second quarter of FY05 included: (1) Industrial Area (IA) Operable Unit (OU), Individual Hazardous Substance Site (IHSS) Group 700-2; (2) IA OU, IHSS Group 700-3; (3) Buffer Zone (BZ) OU, IHSS Group NE-1, (4) BZ OU, IHSS Group 900-2; (5) BZ OU, IHSS Group 900-12; (6) BZ OU, IHSS Group 900-11, (7) BZ OU, IHSS Group 000-5 (Present Landfill); and (8) IA OU, IHSS Group SW-2 (Original Landfill).

3.4.2.1 IA OU, IHSS Group 700-2 (Under Building Contamination Site (UBC) 707 – Plutonium Fabrication and Assembly, UBC 731, B707 Process Waste; and IHSS 000-121, B731, Tanks 11 and 30 – Original Process Waste Line [OPWL])

IHSS Group 700-2 consists of UBC 707, Plutonium Fabrication and Assembly; UBC 731, 707 Process Waste; and IHSS 000-121, B731, Tanks 11 and 30 – OPWL. B707 was approximately 107,500 square feet and contained autoclave vaults, depressed floor slabs, glove box underpasses, sumps, pits, and process waste lines. UBC 731 consisted of the basement area associated with B731, located in the courtyard east of B707. B731 was approximately 210

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square feet and consisted of a below ground surface concrete vault that housed two 1,650-gallon fiberglass tanks (IHSS 000-121 – OPWL, Tanks 11 and 30) and associated transfer pumps. Liquid process wastes from B707 were stored in the tanks prior to being sent to B374 for treatment. The tanks underwent RCRA closure in 1995 (DOE 2000a). Polychlorinated biphenyl (PCB) contaminated soil was removed from the east side of the B707 near the radiometry vault during September 1995. Approximately 65 cubic yards of contaminated soil were excavated during the remediation. Results of confirmation sampling determined that the cleanup criterion of 25 parts per million (ppm) was achieved.

A total of 63 accelerated action soil characterization sampling locations were collected in IHSS Group 700-2. Metals, radionuclides, semivolatile organic compounds (SVOCs), and volatile organic compounds (VOCs) were analyzed in all characterization samples. PCBs were also analyzed in soil from three sampling locations. Arsenic (4 locations) and benzo(a)pyrene (1 location) were the only analytes detected at concentrations greater than RFCA wildlife refuge worker (WRW) action levels (ALs).

Arsenic was detected in surface soil at concentrations greater than the RFCA WRW AL of 22.2 mg/kg at three locations at concentrations ranging from 24.2 to 86.1 milligrams per kilogram (mg/kg). Because the concentration of arsenic was greater than three times the RFCA WRW AL at one location, remediation of the hotspot was required. One sampling location outside of B707 under asphalt pavement contained benzo(a)pyrene in surface soil at a concentration of 3,700 ug/kg compared to the RFCA WRW AL of 3,490 ug/kg but this location was not remediated.

Three subsurface soil locations outside of B707, near roof drain outfalls, contained arsenic at concentrations above the RFCA WRW AL. Arsenic concentrations ranged from 24.3 to 40.8 mg/kg. Remediation was not required for these subsurface soil exceedances based on the Subsurface Soil Risk Screen (SSRS).

Soil was excavated in an area outside of B707 to remediate the location containing arsenic at a concentration of 86.1 mg/kg in surface soil. Two confirmation samples were collected from the excavation sidewalls and one confirmation sample was collected from the excavation bottom. Two of the excavation sidewalls could not be collected because soil was excavated to the edge of a concrete slab on the northern excavation boundary and to the edge of B707 on the eastern excavation boundary; therefore, no sidewall soil existed at these locations. Results of confirmation sampling indicated that arsenic was successfully remediated and all metals concentrations were less than RFCA WRW ALs. Approximately 2 cubic yards of soil were excavated during the soil remediation.

The Final Closeout Report for IHSS Group 700-2 was approved by CDPHE on March 15, 2005.

3.4.2.2 IA OU, IHSS Group 700-3 (IHSS 118.1 and other outside IHSSs)

Accelerated action activities at IHSS 700-3 were planned and executed in accordance with the IA Sampling and Analysis Plan (IASAP), IASAP Addendum #IA-03-04, the Environmental

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Restoration (ER) RFCA Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) Modification 1, and ER RSOP Notification #04-04. Activities were conducted between May 2003 and December 2004, and included soil characterization and removal activities. B730, Tanks T-9 and T-10, solvent-contaminated soil, and waste lines in the area were removed. A portion of the B730 slab (approximately 25 ft x 35 ft) remains at approximately 25 ft below grade. The B701 slab was also removed, as well as the radioactive hot spot under the slab and the fuel-oil line and oil-stained soil adjacent to the slab. In addition, OPWL, one valve vault, and radiologically contaminated soil north of B777 were removed. The ends of remaining lines were grouted. All excavations were backfilled, and remediated areas were graded. Final grading and reseeding will occur after the 776, 777 and 778 UBC projects have been completed.

Residual contaminant concentrations in surface and subsurface soil are less than RFCA WRW ALs, with four subsurface exceptions. In addition, concentrations of VOCs in subsurface soil within IHSSs 118.1 and 132 may exceed WRW ALs at depths greater than 20 ft. These exceptions were evaluated using the RFCA SSRS, and based on the evaluation, it was determined that no additional soil removal was necessary. In addition, Hydrogen Release Compound® was added during backfilling of the IHSS 118.1 excavation to reduce residual VOC contamination in subsurface soil.

D&D of B776/777/778 is ongoing and ER activities will start as soon as possible. A separate ER closeout report will be prepared for the UBCs.

3.4.2.3 BZ OU, IHSS Group NE-1 (Ponds B-1, B-2, B-3)

IHSS Group NE-1 consists of the A-, B-, and C-series retention ponds and the North Firing Range. The B-series ponds are located in the South Walnut Creek drainage, downstream of the 900 Area, and include Pond B-1 (IHSS 142.5), Pond B-2 (IHSS 142.6), Pond B-3 (IHSS 142.7), Pond B-4 (IHSS 142.8), and Pond B-5 (IHSS 142.9).

RFETS began using the drainages immediately upon opening the Plant. The A-, B-, and C-series ponds were designed and constructed to provide residence time and holding capacity for spills and sedimentation of suspended material. However, some of the stream and pond sediments have become contaminated due to releases from industrial processes. Potential contaminants of concern include radionuclides, metals, pesticides, PCBs, and nitrates.

Sediment from Ponds B-1, B-2 and B-3 was removed. Ponds B-1, and B-2 have been backfilled. Backfilling of Pond B-3 is pending.

3.4.2.4 BZ OU, IHSS Group 900-2 (IHSS 153 - Oil Burn Pit No. 2 and IHSS 154 - Pallet Burn Site)

IHSS Group 900-2 consists of two Potential Areas of Concern – IHSS 153 the Oil Burn Pit No. 2 and IHSS 154 Pallet Burn Site. Activities at Oil Burn Pit No. 2 included burning uranium-contaminated coolant and waste oils from B444 and B881 in two open pits between March 1957

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and May 1965. Unknown organic liquids were also stored at the site. Records indicate that the pits were actually two parallel trenches. The second pit was excavated in November 1961. The trenches, which were adjacent to the Mound (IHSS 113), were located north of Central Avenue and southeast of B991. On average, the contents of approximately 80 drums were dumped monthly into the pits and ignited. It is estimated that the contents of 1,354 drums were emptied into the pits and burned.

Liquid residues in the pits ranged from 12,000 disintegrations per minute/Liter (dpm/L) to 300,000 dpm/L uranium activity. In 1978, approximately 240 boxes of soil were excavated from Oil Burn Pit No. 2 and shipped off-site for treatment and disposal. However, cleanup criteria were based on radioactivity measurements and not measurements of solvent residuum. Approximately 10,000 ft^3 of depleted uranium residue were estimated to be present in the area (DOE 1992a).

Characterization sampling indicated PCBs at concentrations greater than WRW ALs were present in the subsurface soil in the Oil Burn Pit. During soil removal activities, high levels of VOCs were also found. The main excavation is approximately 110 feet long, 20 feet wide and 10 feet deep. Additional excavation is proceeding to the east of the north end of the excavation. This is approximately 30 by 30 feet and 12 to 14 feet deep.

Characterization sampling at the Pallet Burn Site (IHSS 154), where wooden pallets were burned indicated that soil removal was not required.

3.4.2.5 BZ OU, IHSS Group 900-12 (East Trenches)

IHSS Group 900-12 (East Trenches) consists of seven trenches (Trenches T-5,

T-6, T-8, T-9a, T-9b, T-10 and T-11). Other trenches in the East Trenches area, including Trenches T-3, T-4, T-7 were addressed in updates to the Historical Release Report.

Characterization sampling results indicated that plutonium-239/240 activities exceeded WRW ALs in Trenches T-6 and T-8 and benzo(a)pyrene concentrations exceeded WRW ALs in T-9a, primarily in the fill material overlying the trench contents. Elevated plutonium-239/240 activities resulted in soil removal and subsequent confirmation sampling. Confirmation sampling results indicate that the plutonium activity at one subsurface location exceeds the WRW AL (50 picocuries per gram); however, the activity is considerably less than 1 nanocurie per gram at a depth greater than 3 feet below ground surface. Approximately 420 cubic yards of material were removed from Trenches T-6 and T-8. EPA approved the Closeout Report for IHSS Group 900-12 on February 23, 2005.

Upon reviewing data associated with the Trench T-7, there was uncertainty regarding levels of radioactivity within the material used to cover the trench debris. Therefore, samples were collected from the fill material overlying the trench contents at three biased locations along the length of the trench and analyzed for radionuclides.

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Analytical results indicated that radionuclides were present at activities greater than WRW ALs at two locations. Based on these results, soil sampling results at the two locations are less than the WRW AL. Approximately 300 cubic feet of soil was removed. EPA approved an Addendum to the HRR for Trench T-7 on February 23, 2005.

Upon reviewing data associated with the Trenches T-3/T-4, there was uncertainty regarding levels of radioactivity within the material used to cover the trench debris. Therefore, samples were collected from the fill material overlying the trench contents at biased locations along the length of the trenches and analyzed for radionuclides.

Analytical results indicated that radionuclides were present at activities greater than WRW ALs in T-4. Based on these results, soil at two locations was removed. Confirmation sampling results indicated that plutonium activities were less than the WRW AL. Approximately 20.8 cubic feet of soil was removed. EPA approved an Addendum to the HRR for Trenches T-3/T-4 on March 7, 2005.

3.4.2.6 BZ OU, IHSS Group 900-11 (903 Pad VOC Sampling)

In accordance with the Groundwater Interim Measure/Interim Remedial Action (IM/IRA), samples are being collected in the vicinity of the 903 Pad to provide additional data on the nature and extent of VOC concentrations in subsurface soil. Sampling was proposed at 25 locations beneath the former 903 Pad and to the east and south of the former Pad. To date, all but 8 locations have been sampled. Because of a subsurface gravel layer, present at the 8 locations, different drilling equipment will be used.

3.4.2.7 BZ OU, IHSS Group 000-5 (Present Landfill) and IA OU, IHSS Group SW-2 (Original Landfill)

IHSS Group 000-5 (Present Landfill)

The Present Landfill IM/IRA decision document was approved by CDPHE and EPA on August 23, 2004. Construction of the accelerated action is underway and is expected to be complete within the third quarter of FY05.

IHSS Group SW-2 (Original Landfill)

The draft Original Landfill IM/IRA was released for a 45-day public review and comment period on December 6, 2004. Field activities related to the design of the proposed action began in the third quarter of FY04 and have been completed. Construction of the proposed action is scheduled for FY05 after the approval of the IM/IRA and design.

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3.4.2.8 Groundwater Interim Measure/Interim Remedial Action

The purpose of the Groundwater IM/IRA is to identify accelerated actions for remediation of shallow groundwater contamination at RFETS. Although the shallow groundwater at RFETS, which constitutes the upper hydrostratigraphic unit (UHSU) at RFETS, is not utilized as a source of drinking water, it can present a potential exposure pathway to the ground surface via seeps and groundwater discharge to surface water. The majority of UHSU groundwater is not contaminated, nor do areas of groundwater contamination extend to the RFETS boundary. However, there are areas within the IA OU with measured elevated concentrations of groundwater contaminants. These areas are the subject of accelerated actions proposed in the IM/IRA. The 45-day public review and comment period started on December 13, 2004. DOE granted an extension to the comment period; the comment period closed on February 10, 2005. The document is currently being revised to address the public comments and is scheduled to be finalized in April 2005.

3.4.2.9 Status of ER Documents

Table 1 lists the status of ER Documents from January 1, 2005 through March 31, 2005.

Table 1. Status of ER Documents

IHSS Groups	Status	Date to Agencies	Approval Date
Closeout Reports			
400-7 – UBC 442 – Filter Test Facility, IHSS 157.1 – Radioactive Site North, IHSS 129 – B443 Oil Leak, IHSS 187 – Sulfuric Acid Spill B443	Received Approval	12/13/04	1/12/2005
700-2 – UBC 707	Received Approval	3/7/2005	3/15/2005
700-3 - IHSS 118.1 and other outside IHSSs	Approval Pending	3/7/2005	
700-11 – PAC 700-1108 – Bowman's Pond, IHSS 139.1(N)(a)	Received Approval	12/16/04	2/4/2005
900-11 – IHSS 112, 903 Pad	Received Approval	10/18/04	1/21/2005
900-11 – IHSS 155 903 Lip Area, IHSS 140 Hazardous Disposal Area	Received Approval	12/2/04	1/21/2005
900-11 – PAC SE-1602 East Firing Range and Target Area	Received Approval	12/20/04	2/10/2005
900-12 – East Trenches	Received Approval	1/20/2005	2/23/2005
NFAA Submittals			
PAC 000-505 – Storm Drains	Submitted to Agencies for Review	11/4/04	
PAC 000-500 – Sanitary Sewers	Received Approval	12/9/04	3/21/2005
T3/T4 NFAA Addendum	Received Approval	1/13/2005	3/7/2005
T7 NFAA Addendum	Received Approval	2/10/2005	2/23/2005
Sampling and Analysis Plan Addendum			
903 Pad VOC Sampling	Received Approval	2/17/2005	3/7/2005
ER/RCRA Standard Operating Procedure Notification			
05-02 – 500-3 (UBC 559)	Received Approval	11/18/2005	2/10/2005
05-03 – 900-2 (IHSS 154 and IHSS 153	Received Approval	1/13/2005	1/27/2005
05-04 – 800-3 (UBC 883)	Received Approval	1/6/2005	2/2/2005

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IHSS Groups	Status	Date to Agencies	Approval Date
05-05 – NE-1 (North Firing Range)	Received Approval	2/17/2005	3/23/2005
OTHER			
Original Landfill IM/IRA	Submitted for final approval		
Groundwater IM/IRA	Addressing Final Public Comment		

4.0 WATER MANAGEMENT

Water management activities during the second quarter of FY05 included: (1) Watershed Improvements; (2) Surface Water Management; (3) Surface Water Monitoring; and (4) Groundwater Monitoring.

4.1 Watershed Improvements

Dam activities completed during the first quarter of FY05 included evaluation of the results of the video inspection of the C-2 outlet pipe. In addition, modifications to C-1 dam to breach and install stop log weir structures were completed. Drawings and specifications were completed for modifications to the A- and B- series dams. Crest monument monitoring was performed in January 2005. Results from crest monument and inclinometer monitoring from December 2004 were evaluated during the second quarter of FY05 and found to be unremarkable.

Storm water pollution prevention practices (silt fences, straw bales, mats, wattles, recontouring patterns, etc.) were implemented for various RFETS demolition projects to minimize storm water runoff, erosion, and sediment transport into the drainage system.

Field inspections of storm water culverts and structures continued. As in previous years, the closure activities have resulted in some existing structures being removed, and some new culverts installed due to the addition of temporary roads and new facilities. Where appropriate, storm water culverts are being identified for removal.

4.2 Surface Water Management

During the second quarter of FY05, Kaiser-Hill completed the following pond water transfers and discharges totaling 48.24 million gallons (MG), an increase of 210% compared to the second quarter of FY04 (15.60 MG).

Pond A-4 water was treated to lower elevated levels of americium (Am) and pump transferred to A-3 twice during the second quarter, once for 7.51 MG from February 3 through February14, 2005, and another for 7.11 MG from February 28 through March 10, 2005.

Pond A-3 activity included one outlet-valve direct discharge to Pond A-4 totaling 6.51 MG occurring during the period of January 3 through January 24, 2005, one pump transfer of 5.91

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MG of treated A-4 water to B-4 from February 22 through February 28, 2005, and a pumped discharge of 7.94 MG of treated A-4 water to North Walnut Creek (NWC) from March 25 through March 31, 2005. For discharge into NWC, water-quality samples were collected and analyzed. Water-quality data met all requirements and all approvals; notifications were performed prior to the discharge to NWC. The City of Broomfield opted not to impound this Pond A-3 discharge within Great Western Reservoir.

Flows from NWC were diverted into Pond A-2 in lieu of Pond A-3 during the second quarter of FY05. Pump transfer to Pond B-4 of 1.86 MG of this water from Pond A-2 occurred from February 28 through March 4, 2005.

Pond B-5 activity included a discharge to South Walnut Creek (SWC) totaling 1.21 MG from March 15 through March 16, 2005, at which time the discharge was interrupted due to questions over sample results. An additional sample was taken and upon confirmation of acceptable water quality, discharge of an additional 10.19 MG occurred from March 22 through March 31, 2005. Notifications were performed prior to the discharge to SWC. The City of Broomfield opted not to impound this Pond B-5 discharge within Great Western Reservoir.

No water was discharge from Pond C-2 during the second quarter of FY05.

Transfers and discharges from the RFETS ponds during the second quarter of FY05 are summarized in Table 2.

Table 2. RFETS Pond Water Transfers and Discharges - Second Quarter of FY05

Dates	Pond to Pond	Volume	Discharge Type
1/3 through 1/24	A-3 to A-4	6.51	Outlet valve direct discharge
2/3 through 2/14	A-4 to A-3	7.51	Pump transfer
2/22 through 2/28	A-4 to B-4	5.91	Pump transfer
2/28 through 3/4	A-2 to B-4	1.86	Pump transfer
2/28 through 3/10	A-4 to A-3	7.11	Pump transfer
3/15 through 3/16	B-5 to SWC	1.21	Outlet valve direct discharge
3/22 through 3/31	B-5 to SWC	10.19	Outlet valve direct discharge
3/25 through 3/31	A-4 to NWC	7.94	Pump discharge
	Total for Quarter	**48.24 MG**	

4.3 Surface Water Monitoring

During the second quarter of FY05, 64 composite samples were collected by the RFCA automated monitoring network and submitted for analysis. This level of sampling activity is 62% of anticipated (103 samples expected) for the current monitoring network and 112% greater than the average (57 samples) for the same period during the prior seven years of RFCA sampling (2Quarter[Q]) FY04: 50 samples, 2QFY03: 112 samples, 2QFY02: 46 samples, 2QFY01: 46 samples, 2QFY00: 60 samples, 2QFY99: 49 samples, 2QFY98: 62 samples, and 2QFY97: 33 samples). This increased number of samples is due to a larger network.

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Monitoring locations GS22, GS32, GS50, SW036, SW119, and SW120 were all removed during the second quarter of FY05. These locations were removed to make way for Closure projects or because drainage reconfiguration had eliminated flow to the location. As of March 31, 2005, 39 surface water monitoring locations remained operational.

Reportable 30-day average values for Am were observed for the period from July 22 through January 26, 2005 using validated data. As of January 27, 2005 Am was no longer reportable at SW093.

All water monitored at SW093 flows to Pond A-3, is batch discharged to Pond A-4, and eventually batch discharged to lower Walnut Creek. Pre-discharge samples of the water in Pond A-4 indicated acceptable water quality prior to the August 11 through August 23, 2004 Pond A-4 discharge. This discharge included water monitored at SW093 through July 14, 2004. Water monitored at SW093 for the period July 14 through October 21, 2004 was discharged to Pond A-4 in two batches (August 25 through September 2, 2004 and October 4 through October 21, 2004). A Pond A-4 predischarge sample was collected on November 3, 2004 in preparation for a discharge later that month. On November 8, 2004, Kaiser-Hill received analytical results from SW093 showing Am at 14.1 picocuries per liter (pCi/L) (plutonium [Pu] 0.497 pCi/L) for the September 28 through October 4, 2004 composite sample. On November 16, 2004 the A-4 predischarge results were received by Kaiser-Hill showing 0.635 pCi/L Am and 0.001 pCi/L Pu. The scheduled A-4 discharge was immediately postponed, and the Site began planning for source evaluation and treatment options.

The causes of the reportable Am values prior to August 2004 were detailed in the Final Source Evaluation Report for Points of Evaluation GS10, SW027, and SW093: Water Year 2004 (05-RF-00087; URS 2004). Completed in March 2005, the Source Evaluation Report for Point of Evaluation SW093: Water Year 2004-2005 includes additional data collection and evaluation of reportable americium observations after July 2004 as an addendum to those outlined in the previous report noted above. This report also builds on the results of other previously completed Source Evaluation Reports for SW093: RMRS, 1997b, 1997c, 1998a, and 1999b; URS, 2003b. The current conclusions are summarized below:

1. The surface water monitoring program provided timely identification of the elevated Am in the ponds and surface water in NWC. Follow-up monitoring upgradient in the drainage quickly identified the source as the B771 area and allowed for rapid isolation.

2. Use of the RFETS retention ponds continues to provide protection for downstream water quality. Pu and Am activities at the terminal pond outfalls and fenceline Points of Compliance (POCs) remain well below reporting thresholds.

3. A recent shift in Pu/Am ratios toward a higher relative abundance of Am at SW093 correlates well with selected analytical results from the B771 Manhole #3 (MH#3). With the disruption of this B771 pathway, Am levels have returned to well below reporting thresholds.

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4. The loading analysis indicates that the B771 pathway was contributing the majority of the Am load at SW093. Analytical data from the inflow and outflow lines associated with MH#3 at B771 also suggest that the B771 pathway was providing Am load to NWC. With the disruption of the B771 pathway, Am loads have decreased significantly.

5. Permanent isolation of any potential remaining Am has been achieved by disrupting and grouting all pipelines or conduits that could possibly provide a future pathway.

Reportable 30-day average values for Pu were observed at Point of Evaluation (POE) GS10 for the period from February 2 through February 23, 2005 using validated data. Reportable 30-day average values for Am were also observed for the period from February 2 through February 23, 2005 using validated data. Additional data are being validated. The end of the reportable period will be determined when Kaiser-Hill receives subsequent validated analytical results. Kaiser-Hill and DOE are in the process of making notifications regarding this most recent period of reportable values at GS10. Any plans for source evaluation are pending regulator consultation.

All water monitored at GS10 flows to Pond B-5 and eventually is batch discharged to lower Walnut Creek.[1] Pre-discharge samples of the water in Pond B-5 were collected in March 2005 and indicated acceptable water quality. This B-5 volume includes flows from GS10 during the period October 7, 2004 – to date. This Pond B-5 discharge was started on March 15, 2005 and is expected to be completed by April 5, 2005. Points of Compliance GS08 (Pond B-5 outfall) and GS03 (Walnut Creek at Indiana Street) are currently collecting composite sample of this discharge. As of March 31, 2005, Kaiser-Hill has not received analytical results for any of the GS08 and GS03 samples already collected.

A review of all analytical data available for the quarter as of March 31, 2005 showed that the 30-day moving average values for all other POE and POC locations were under the RFCA action levels and standards framework for all monitored analytes.

4.4 Groundwater Monitoring

The Quarterly Information Exchange Meeting scheduled for March 29, 2005 was postponed to April 12, 2005. The results of the Fourth (calendar) Quarter 2004 Groundwater Monitoring Report will be presented at the April meeting. Other activities completed during the second quarter of FY05 included:

1. Sampled 25 IMP wells, 26 Well Abandonment and Replacement Program wells and 2 other groundwater monitoring wells. 234 groundwater samples were shipped to off-site laboratories for analysis. Sampling of 4 additional wells was attempted but the wells were dry.

1 Some Pond B-5 water is occasionally pump transferred to Pond A-4.

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2. The Well Abandonment and Replacement Program abandoned 153 wells (101 wells from the FY05 scope and 52 wells from the FY04 scope). Four new wells (88104, 89104, 90804, and 63805) were installed during the quarter. Completed the calendar year 2005 Well Replacement Work Plan Addendum.

5.0 APPROVED DECISION DOCUMENTS

There were no decision documents approved during the second quarter of FY05 that require an update to RFCA Attachment 12 in accordance with RFCA paragraph 122.

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